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MICRO-TEACHING--A NEW FRAMEWORK FOR IN-SERVICE EDUCATION.
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MICROTEACHING WAS USED IN A SERIES FOR THE IN-SERVICE TRAINING OF SUPERVISORS. TEACHERS AND SUPERVISORS WERE GIVEN ONLY A CURSORY AMOUNT OF TRAINING AND INITIAL APPLICATION, YET SUPERVISORS WERE ABLE TO NOTICE DIFFERENCES IN TEACHING BEHAVIOR. THE TRAINING SEMINARS DEMONSTRATED THAT MICROTEACHING CAN BE OF REAL VALUE TO EXPERIENCED PERSONNEL. MICROTEACHING WAS FOUND TO BE VALUABLE FOR IN-SERVICE SITUATIONS BECAUSE OF (1) ITS IMMEDIATE FEEDBACK AND RETEACHING FACTOR, (2) THE NEED TO GIVE TEAM-TEACHING PERSONNEL TOTAL RUNS, (3) ITS ABILITY TO ACCURATELY GAUGE THE INSTRUCTIONAL LEVEL OF NEW MATERIAL, (4) ITS USE IN PROVIDING AN INDEX OF TEACHING ABILITY PRIOR TO EMPLOYMENT, AND (5) ITS PROVIDING FOR A CONTINUOUS SUPERVISION AND EVALUATION OF BEGINNING TEACHERS. (RP)

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MICRO-TEACHING: A NEW FRAMEWORK FOR IN-SERVICE EDUCATION

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A young science teacher entered her micro-teaching class carrying a live snake. The purpose of her lesson was to identify characteristics common to snakes and not to other animals. As a result of her dramatic entrance, involvement was immediate and sustained throughout the five-minute lesson. At the end of the lesson, no one could doubt that this was real, not laboratory teaching.

The teacher was evaluated and rated by the students and supervisors in accordance with the Stanford Appraisal Guide. Her ratings were generally quite high, with the exception of "pacing the lesson." Immediate feedback indicated that this otherwise effective teacher talked too fast and covered too much information through the lecturing technique. It was suggested that she limit the information to three or four major characteristics which distinguish snakes from other types of animals, and refocus in order to provide for student summary and more effective closure.

With immediate information as to suggested improvement, the teacher then re-taught the same lesson dealing with snakes. On subsequent re-teach, the teacher, students, and supervisors felt the lesson indicated definite improvement. All agreed that the material was probed in greater depth, and the material was more lucid in organization.

This teaching situation occurred as part of a seminar series for in-service training of supervisors at the Campbell Union High School District in California. The purpose of the series was to change teacher perceptions of their own teaching behavior, and to provide training for specific teaching skills. Teachers and supervisors were given only a cursory amount of training and initial application, yet supervisors were able to get differences in teaching behavior. The training seminars demonstrated that micro-teaching can be of real value to experienced personnel.

The micro-teaching structure is a scaled-down teaching encounter in class size and class time which has been developed in the Stanford University Secondary Teacher Education Program. Class size is limited to one to five students and class time from five to twenty minute lessons. Micro-teaching may be used with or without video-tape.

While micro-teaching was first developed for preliminary experience and practice in teaching and as a research vehicle to explore training effects under controlled conditions, the concept can be of service to experienced teachers as a means of gaining new information about their teaching in a relatively short time, and as a means of changing teacher perceptions of their own teaching behavior. Relistic approximations to classroom conditions allow predictions of subsequent classroom teaching to be made with a high degree of accuracy, for the students are reacting and evaluating as real students, not role-playing. This constitutes a real teaching encounter, not one which is simulated; only it is reduced in terms of students and time.

Micro-teaching may therefore serve a dual purpose; it may be utilized in a diagnostic sense to ascertain specific problems in presenting curriculum, and it may be used in an evaluative sense to rate total performance through the use of immediate student feedback. Previous experiments have shown that student ratings of teacher performance are more stable than other types of evaluation.

Experienced teachers may gain new insights through adaptation of the micro-teaching model. Under the present framework, if a teacher wishes to try a new approach in a particular lesson, he must wait until the following year to test alternatives to that lesson. In micro-teaching, the teacher can experiment with several alternatives with a limited number of students each time, with the opportunity for immediate evaluation and additional trials. Following this limited application, the plan can then be presented to the classroom. In this way, teachers may experiment with new methods and new content without the risk of defeating student learning and with much more satisfactory timing.

The micro-teaching clinic is an effective stimulus for the improvement of teacher performance after a performance plateau is reached in early tenure. The most effective teachers attain a high level of performance early in their careers. Unfortunately they rarely have the stimulus to further increase their competence. Providing them with an opportunity to try new ideas easily and without risk to student learning can be an important asset to professional development.

The following uses of micro-teaching are among those appropriate for in-service situations:

1. The teach-reteach pattern.

By using a teach-reteach model, a teacher can use the experience of teaching a lesson to an initial group of students to make changes which can be immediately incorporated and taught to a different group of students for comparative evaluation. The scaled-down nature of the micro lesson

makes such repetitions feasible and economical. By using the teach-reteach pattern, specific teaching skills can better be evaluated; content can be tested with one teacher practicing a new lesson while the rest of the department uses this lesson as a basis for critique and suggested alternatives. On the reteach, the experienced teacher can test new ideas and methods determined by student reaction and departmental suggestions thereby improving both the quality of content and mode of presentation.

2. Micro-teaching as a trial framework for team presentations.

Groups of teachers can experiment together with new techniques in content or mode of presentation. Several teachers from a given department could teach while the rest of the department uses their presentation for purposes of evaluation. Perhaps several departments might expand this experiment as a means for developing interdisciplinary curriculums.

3. Micro-teaching as a site for trial of instructional level.

It is often difficult to predict the instructional level of materials. Even the most experienced teacher can make serious misjudgments about student experience or maturity required to learn a given set of materials. In some instances this will require the alteration of the lesson materials. In other circumstances the lesson can be taught at another level as indicated. In Jefferson County, Colorado, a lesson was developed for fifth and sixth-grade students in science. In a trial of this lesson in a micro-teaching situation, it was discovered that second-grade students caught on to this lesson faster than did older students. Micro-teaching provides good opportunity for such quick comparisons. Obviously, there remained many questions as to why and under what circumstances the results would have differed. These questions could also be tested quickly in the micro-teaching structure where immediate feedback is available and the conditions could be altered easily as desired.

4. Micro-teaching for pre-employment prediction.

Micro-teaching can serve as a framework for selection or rating experienced teachers seeking employment. An evaluation committee could rate the teacher under "live" conditions instead of relying solely on recommendations or grade-point average. This concept can be extended to include evaluation of current employees for possible promotion. Under the present system, teachers are observed once or twice a year, given a rating form or written recommendation which signifies the teacher's competence. With the use of micro-teaching, teachers can be observed frequently for brief durations of time, under controlled conditions. With micro-teaching as a source of evaluative evidence, new criteria for employment performance can be developed. For example, it might be more noteworthy to judge how much a potential teacher will be

able to improve as a result of inservice supervision than to assess current performance. Also as we learn to differentiate teaching roles, micro-teaching situations can be devised to provide practice and evaluation of specific competences.

A recent experiment for pre-employment prediction was carried out jointly by Stanford University and the Fremont Union High School District in California. Teachers seeking employment with the Fremont District taught a micro-lesson. Two methods for selection were then used; Fremont selected teachers using traditional means, while Stanford University predicted teaching success based solely on micro-teaching evaluations. The results of this experiment will be available in the fall after Stanford and Fremont correlate their selections and predictions. Those teachers chosen by Fremont will be checked against their ratings in micro-teaching, and both predictions will be evaluated by teaching success during the year. It is not anticipated that micro-teaching can replace other employment screening entirely, but the present experiment can provide evidence as to possible directions for further exploration.

5. Micro-teaching to train supervisors.

By focusing on specific techniques desired for experienced teachers, supervisors can identify the necessary variables in training teachers to improve their teaching behavior. The beginning teacher, for example, is observed usually one full class period followed by a teacher conference. The new teacher receives a list of suggested changes, but the supervisor has no way to test the results of the conference since there is typically no effort to evaluate the application of supervisory suggestions until months later, with different conditions in student reaction, materials, or grade level. No one ever knows the results of supervision.

With micro-teaching, a beginning teacher is observed for a brief lesson followed by a conference followed by another observation. During the conference, the trainee must absorb both the students' and the supervisor's suggestions for improvement. During the re-teach, the supervisor can immediately evaluate progress and understanding on the part of the teacher. All instruction and evaluation occurs within a relatively short period. Experiments have indicated that a teacher should not be given more than one or two specific points to concern himself with during any one supervisory sequence.

There are many facets of supervision that can be studied, using the micro model: testing and looking at alternatives for supervision; varying the time and length of visits; letting teachers select the time for supervision; experimenting with the concept that the quality of supervision improves with a reduction in the number of conference suggestions; experimenting with or without video-tape; studying and enumerating the skills of teaching (identifying specific training protocols); using new materials; distinguishing between behavioral objectives and pious hopes; improving the ability to diagnose and state behavioral objectives; and developing instructional techniques.

6. Micro-teaching for continuing the supervision and evaluation of beginning teachers.

This model lends itself to intensive supervision, immediate critique, and opportunities to repeat the practice session if necessary. Micro-teaching simplifies the complexities of teaching by isolating specific variables in the total teaching act which can be identified and therefore manipulated. It also provides greater control over practice in a wide range of teaching situations, in a variety of pupil types and class compositions and in the possible variation in amount of practice according to individual needs. Micro-teaching increases the economy of supervision by increasing the amount of practice possible within a limited period of time, requiring fewer facilities and pupils. It also anticipated new alternatives in evaluation by providing good records of teaching performance at periodic intervals under standard conditions and permitting several judges to evaluate and re-evaluate a single performance.

The micro-teaching model can be adapted to different grade, ability, and interest levels. This is especially important at the junior and senior high school level. Individual adaptations would vary from school to school, depending upon local needs.

Initiating and maintaining a micro-teaching clinic serving local needs takes few facilities and funds.

Micro-teaching can facilitate curriculum planning. If the committee is working during the summer, then the micro-classes should be utilized during the summer. Students could be hired and paid out of regular district funds as part of the cost of curriculum development. This would provide pre-class trials of materials with the opportunity for trying and testing many alternatives.

If the curriculum committee is working on planning development during the regular school year, then microteaching should be used a few days before a teacher would normally be teaching the lesson. This would be particularly useful for evaluation in team-teaching situations. Teachers could use their own students for evaluation purposes, but on each occasion, teachers should select different students from their classes for trial runs. This provides the necessary random sampling and does not unduly affect the learning of any one student. Great variety is possible with only a few students.

During the summer of 1965, Stanford University has continued experimenting with the micro-teaching model as a method for training beginning teachers. For 140 pre-service teachers, the total number of students required was 42. Ten different student teams composed of four students each were used (with two reserves) and this combination gave great variety for each teacher.

The micro-teaching model can be used as a part of teacher workshops. The model can be adapted at any time during the workshops; on Saturdays, during the summer, or during the regular school year. Students could be selected on a voluntary basis or hired. The important thing to remember is that adaptation of micro-teaching does not take many students or complex logistics.

A recent interview with experienced personnel from Jefferson County, Colorado, indicated that micro-teaching during summer workshops for in-service teachers is particularly valuable. New ideas and methods were tested within the micro-framework. The model was also successfully used on parents' night as a means of explaining to parents new ideas and curriculum to be presented during the summer.

During the summer, the problem is to select a representative student population for which the materials are ultimately being developed. Experiments to date have shown that there is no difficulty employing the students; they are eager to participate. Funds can be drawn from the curriculum planning budget. Proportionately, the amount of financial resources needed is not high.

Training of micro-teaching students is minimal, since training is limited to teaching the students how to use the evaluation instruments. Two types of instruments have been used in Stanford's experimentation; a general rating form (the Stanford Teacher Competence Appraisal Guide), and specific forms developed to reflect specific skills. The latter instruments are designed by the staff responsible for the training so that the desired responses are accounted for selectively.

The structure of the micro-teaching clinic will depend on the focus and purposes of the experimentation; that is, the structure will be difference if the focus is on staff training rather than on materials. If the focus is on staff training, then the students should use narrow and specifically designed rating instruments to measure staff variables. If the focus is on materials, evaluative instruments would have to reflect the training focus.

The micro-teaching clinic can be structured so that it focuses upon teaching competences where the students' point of view is most relevant. This would include student reaction to beginning the lesson (establishing set), establishing appropriate frames of reference, increasing student participation, using questions effectively, recognizing and obtaining attending behavior, control of participation, providing feedback, setting a model, employing reinforcement, effectively giving directions, and ending the lesson (achieving closure).

Micro-teaching successfully facilitates maximum flexibility in learning how to use new curriculum, in learning how to evaluate curriculum and performance, and as a selection and prediction device. Micro-teaching lends itself

well to experimentation with practice and evaluation of several techniques: the teach-reteach pattern offers the opportunity for immediate student reaction and feedback; team presentations can be tested on a limited scale before postulation to the class; the model can be adapted at different grade levels; a micro-teaching situation can provide information for determining the level where a lesson might be most appropriately taught; pre-employment and employment predictions and ratings can be evaluated from several points of view; training techniques can be developed for supervisors; continued supervision and evaluation of beginning teachers can be increased.

Micro-teaching offers the opportunity for new insights and perceptions of teaching behavior in presentation and evaluation techniques. The model can be adapted to local needs in testing both immediate and long-range goals in curriculum planning. Micro-teaching holds a kaleidioscope of opportunities for rethinking the basis of inservice education.

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